

## REMARKS

### I. Summary of final Office Action

Claims 1-89 are pending in the application.

The Examiner maintained the rejection of claims 1-4, 10, 21-23, 29, 35-37, 43, 49-51, 57, 63-64, 70, 76-77, 83, and 89 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,088,032 to Bosack (hereinafter, “Bosack”).

Claims 5-9, 11-20, 24-28, 30-34, 38-42, 44-48, 52-56, 58-62, 65-69, 71-75, 78-82, and 84-88 remain rejected by the Examiner under 35 U.S.C. § 103(a) as being unpatentable over Bosack.

### II. Summary of Applicants' Reply

Applicants thank the Examiner for withdrawing the rejection of claims 63-89 under 35 U.S.C. § 112 that was set forth in the Office Action mailed on September 7, 2004.

Amendments to claims have been proposed by applicants in order to correct certain typographical errors in applicants' Listing of Claims submitted with the Reply to Office Action mailed on March 7, 2005, and to more particularly define the invention. No new matter would be added by these amendments to the claims.

The Examiner's rejections under 35 U.S.C. §§ 102(b) and 103(a) are respectfully traversed by applicants.

Reconsideration of this application in light of the following comments is respectfully requested.

### III. The Amendments to the Claims

Applicants have recently discovered typographical errors in claims 16-18 and 38 as recited in the prior Listing of Claims that was submitted with the Reply to Office Action mailed on March 7, 2005. It is noted that these typographical errors are not present in the application as originally filed, but rather, were inadvertently made in drafting the prior Reply to Office Action. In particular, in the prior Listing of Claims, “claim 1” was inadvertently replaced with “claim I” in each of claims 16-18, and “IP packet” was inadvertently replaced with “1P packet” in claim 38.

Although none of claims 16-18 and 38 were marked as being amended in the prior Listing of Claims, applicants have proposed amending claims 16-18 and 38, if necessary, as indicated in the current Listing of Claims that begins on page 2 of this paper. The proposed amendments to claims 16-18 and 38 would not add any new matter, because they are merely intended to correct typographical errors that were not present in the originally filed application.

Applicants respectfully request entry by the Examiner of the proposed amendments to claims 16-18 and 38, if these claims were in fact amended as a result of the typographical errors present in the prior Listing of Claims that was submitted with the Reply to Office Action mailed on March 7, 2005.

Moreover, applicants have proposed amending claims 1, 21, 63, and 76 to more particularly define the invention. These amendments also would not add any new matter, and are fully supported and justified by the specification and drawings as originally filed (*see, e.g.*, paragraphs 43-48 of applicants' originally filed specification).

Accordingly, applicants respectfully request entry by the Examiner of the proposed amendments to claims 1, 21, 63, and 76.

**IV. The Rejection of Independent Claims 1, 21, 36, 49, 63, and 76 Under 35 U.S.C. § 102(b)**

In the Office Action, the Examiner maintained the rejection of each of the pending independent claims 1, 21, 36, 49, 63, and 76 under 35 U.S.C. § 102(b) as being anticipated by Bosack. The Examiner's rejection of independent claims 1, 21, 36, 49, 63, and 76 is respectfully traversed.

Applicants respectfully submit that, contrary to the Examiner's contention, each of independent claims 1, 21, 36, 49, 63, and 76 are allowable over Bosack for at least the reasons that follow.

**A. Introduction**

In the Office Action, the Examiner suggests that Bosack's gateways are the same as applicants' claimed Nodes to which paths are determined. For example, in asserting that Bosack discloses the determination of paths between Nodes as recited in applicants' independent claims, on page 3 of the Office Action, the Examiner referred to "paths between the gateway and

destination gateways.” However, even assuming arguendo that Bosack’s gateways are destinations as asserted by the Examiner, Bosack does not anticipate any of independent claims 1, 21, 36, 49, 63, and 76.

### **B. The Bosack Reference**

Bosack relates to a method and apparatus for routing data transmissions among computer networks with the use of gateway circuits (“gateways”). As described in Bosack, *e.g.*, at column 1, line 60 to column 2, line 38 and column 4, lines 10-42, each gateway learns all the destinations that can be reached through it (*see, e.g.*, Bosack’s Table 1 located at column 5, lines 1-15, which lists “N” number of different destinations reachable by a particular gateway, and the possible “next hops” to reach the different destinations). When a first gateway in Bosack receives data whose identified destination is a non-adjacent gateway, the first gateway simply selects a suitable next hop gateway based on the known destination. Nowhere in Bosack is it disclosed or suggested that the first gateway determines or knows the entire path to reach the non-adjacent destination gateway. On the contrary, once a subsequent gateway in a data transmission path receives data, it is that subsequent gateway which determines the following next hop, not the preceding gateway from which it received the data. For example, referring to FIG. 2 of Bosack, when gateway 108 receives data to be transmitted to a computer in network 84 (via gateway 102), gateway 108 will not know (or be able to control) the entire route to reach network 84 or gateway 102. Rather, gateway 108 will simply send the data to a chosen one of gateways 104, 106, and 76 (*i.e.*, the next hop gateway chosen by gateway 108), and it is up to the chosen next hop gateway to determine the subsequent next hop to reach the destination (in this case, a computer in network 84).

### **C. Independent Claims 1 and 21 Are Allowable Over Bosack**

Applicants’ independent claims 1 and 21 relate to a network that includes a plurality of Nodes interconnected by Links. Both of independent claims 1 and 21, as proposed, include the following features (emphasis added):

- each Node is assigned a set of one or more coordinate labels, each representing a path comprising one or more Links or other Nodes;
- each coordinate label is unique to the Node to which it is assigned; [and]

a path between a first Node and a second, non-adjacent Node being determined by said first Node from one of said coordinate labels assigned to said first Node and one of said coordinate labels assigned to said second Node, said determined path comprising a Link connecting a third Node and said second Node[.]

In arguing that Bosack discloses determining a path as claimed by applicants, the Examiner stated that “paths between the gateway and destination gateways [in Bosack] are compiled based on the description of each data link between the gateway and destination gateway[s]” (Office Action, page 3, lines 3-5, and Office Action, page 13, line 21 through page 14, line 1), and that “Bosack discloses a gateway which includes a description (coordinate label) of each data link, not just the next-hop, for the path from the source gateway to the destination gateway” (Office Action, page 13, lines 3-5).

Even assuming arguendo that these assertions are correct and that data link descriptions are a type of “coordinate label” as claimed by applicants, which applicants assert is not the case, Bosack still does not disclose using data link descriptions to determine, by a first Node, a path between the first Node and a second, non-adjacent Node that includes “a Link connecting a third Node and [the] second Node,” as recited in claims 1 and 21. On the contrary, data link information as described throughout Bosack is used by a gateway solely to determine the next hop gateway in a data transmission. For example, in column 4, lines 36-37, Bosack explains that the paths computed by a gateway “are defined simply by the next hop.” The fact that gateways in Bosack merely determine the next hop in a data transmission, and not any Link beyond the next hop, is also clear from the description in Bosack. For example, with regard to the different possible paths in Bosack’s FIG. 2 that may be used to connect gateway 76 to network 88, Bosack explains that “routes involving links 121 and 122 both go through gateway 108,” but that gateway 76 “need not choose between them, leaving the choice to gateway 108” (Bosack, column 4, lines 39-42, emphasis added). Nowhere does Bosack disclose that a first Node or gateway is able to determine a path beyond the next hop in a data transmission path towards a non-adjacent second Node or gateway.

Accordingly, Bosack does not disclose determining a path between first and second non-adjacent Nodes by the first Node, where the path that has been determined by the first Node includes “a Link connecting a third Node and said second Node,” as recited in claims 1 and 21.

For at least the foregoing reasons, applicants respectfully request that the rejection of claims 1 and 21, and claims 2-20 and 22-35 which depend from one of these claims, be withdrawn by the Examiner.

**D. Independent Claims 36 and 49 Are Allowable Over Bosack**

Applicants' independent claims 36 and 49 relate to a method for determining a path from a source Node to a destination Node in a network. Both of independent claims 36 and 49 include the following features (emphasis added):

assigning to each of said second Nodes, including said source Node and said destination Node, one or more coordinate labels, each coordinate label assigned to a second Node representing a path through said network from said second Node to [a] first Node; and

determining a path from said source Node to said destination Node by combining one coordinate label of said source Node and one coordinate label of said destination Node.

In maintaining the rejection of claims 36 and 49, the Examiner asserted that “[t]he term ‘combining’ is utilized very loosely, which provides many broad and reasonable interpretations [and] the metrics computed for each link and combined to determine the path from the source gateway to the destination gateway [is] logically equivalent to the claimed invention” (Office Action, page 14, lines 14-17). Applicants respectfully disagree with the Examiner’s assertion that Bosack’s metrics are logically equivalent to the claimed invention. Moreover, applicants respectfully submit that, regardless of the interpretation of the term “combined” that one chooses to apply, it is clear that applicants’ claims 36 and 49 both require that a coordinate label of the destination Node be used in determining a path to that destination Node. However, as described throughout Bosack, the link descriptions (or metrics) in Bosack are used solely for outbound connections (to the next hop gateway in a data transmission). Nowhere does Bosack show or suggest that any gateway is assigned a link description that is used to determine a path to that gateway, rather than away from that gateway to a next hop. Thus, even if a link description was a coordinate label and was assigned to a destination gateway or Node, such a link description would not be combined with any other link description or coordinate label for the purpose of determining a path to that destination gateway or Node, as recited in claims 36 and 49.

Accordingly, Bosack does not disclose determining a path between a source Node and a destination Node by combining a coordinate label of the source Node and a coordinate label of the destination Node, as recited in claims 36 and 49.

Moreover, applicants respectfully submit that the Examiner erred in failing to address independent claims 36 and 49 apart from claims 1 and 21 (or, at least, provide reasons why the limitations found in claims 36 and 49 but not in claims 1 and 21 are believed to be shown or suggested by Bosack). For example, a system covered by claims 36 and 49 may be one in which a path between Node A and Node B is determined by combining the following two: (1) a coordinate label of Node A that represents a path from Node A to a different Node Z, and (2) a coordinate label of Node B that represents a path from Node B also to Node Z. Bosack does not show or suggest combining coordinate labels that represent respective paths from source and destination Nodes to the same different Node, as recited in claims 36 and 49, nor has the Examiner even suggested that it does.

For at least the foregoing reasons, applicants respectfully request that the rejection of claims 36 and 49, and claims 37-48 and 50-62 which depend from one of these claims, be withdrawn by the Examiner.

#### **E. Independent Claims 63 and 76 are Allowable Over Bosack**

Applicants' independent claims 63 and 76, as proposed, relate to a Node for use in a network. According to both of independent claims 63 and 76, the Node "has one or more coordinate labels assigned thereto, each coordinate label representing a complete path from said Node to a particular other, non adjacent Node" (emphasis added). Moreover, as proposed, amended claims 63 and 76 also recite that "said Node determines a complete path from said Node to a non-adjacent destination Node from a particular one of said one or more coordinate labels."

Unlike the claimed invention, nowhere in Bosack is it shown or suggested that a Node is assigned one or more coordinate labels, where each coordinate label represents a complete path from that Node to a non-adjacent Node, and where the "Node determines a complete path from said Node to a non-adjacent destination Node from a particular one of said one or more coordinate labels" (claims 63 and 76). This is apparent from Bosack's consistent explanation that, when a gateway in Bosack receives a data transmission that is destined for a non-adjacent

node, the gateway merely selects the next hop gateway (*e.g.*, based on its available data link descriptions) in the path. For example, at column 1, line 67 through column 2, line 2, Bosack explains that gateways store the identity of the next hop gateway and metric information concerning the path to this next hop. Similarly, at column 4, lines 30-42, Bosack explains that gateways determine the desirability of all the links to adjacent gateways that it may use to send a data transmission towards its destination. Moreover, while Table 1 of Bosack lists destinations reachable from a gateway, nowhere in Bosack, including the portions cited by the Examiner in the Office Action, does it show or suggest that gateways know the complete path to reach these destinations.

Accordingly, applicants respectfully request that the rejection of claims 63 and 76, and claims 64-75 and 77-89 which depend from one of claims 63 and 76, be withdrawn by the Examiner.

**V. The Rejections of Dependent Claims 2-20, 22-35, 37-48, 50-62, 64-75, and 77-89 Under 35 U.S.C. §§ 102(b) and 103(a)**

The Examiner maintained the rejection of each of dependent claims 2-20, 22-35, 37-48, 50-62, 64-75, and 77-89 under one of 35 U.S.C. §§ 102(b) and 103(c) as being either anticipated by, or unpatentable over, Bosack.

Applicants respectfully submit that claims 2-20, 22-35, 37-48, 50-62, 64-75, and 77-89, each of which depends from one of independent claims 1, 21, 36, 49, 63, and 76, are allowable for at least the same reasons that the independent claims are patentable as set forth above. Therefore, applicants respectfully request that the rejections of claims 2-20, 22-35, 37-48, 50-62, 64-75, and 77-89 be withdrawn by the Examiner.

**VI. Petition For Extension Of Time**

Applicants have submitted herewith a petition for a three-month extension of time for responding to the Office Action mailed on June 24, 2005. The Director is hereby authorized to charge any additional fees which may be required for this response, or credit any overpayment, to Deposit Account No. 08-0219.

## **VII. Conclusion**

Applicants respectfully submit that, as described above, the cited references do not show or suggest the combination of features recited in the claims. Applicants do not concede that the cited references show any of the elements recited in the claims. However, applicants have provided specific examples of elements in the claims that are clearly not present in the cited prior art.

Applicants strongly emphasize that one reviewing the prosecution history should not interpret any of the examples applicants have described herein in connection with distinguishing over the prior art as limiting to those specific features in isolation. Rather, applicants assert that it is the combination of elements recited in each of the claims, when each claim is interpreted as a whole, which is patentable. Applicants has emphasized certain features in the claims as clearly not present in the cited references, as discussed above. However, applicants do not concede that other features in the claims are found in the prior art. Rather, for the sake of simplicity, applicants are providing examples of why the claims described above are distinguishable over the cited prior art.

Further, applicants hereby retract any arguments and/or statements made during prosecution that are rejected by the Examiner during prosecution and/or that are unnecessary to obtain allowance, and only maintain the arguments that persuade the Examiner with respect to the allowability of the patent claims, as one of ordinary skill would understand from a review of the prosecution history. That is, applicants specifically retract statements that one of ordinary skill would recognize from reading the file history as not necessary, not used and/or rejected by the Examiner in allowing the patent application.

For at least the reasons set forth above, applicants respectfully submit that this application, as amended, is in condition for allowance. Reconsideration and prompt allowance of the application are respectfully requested.

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Respectfully submitted,

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